CLAIMS

1. Apparatus for treating a subject, comprising:

a stimulation device, adapted to be implanted in a vicinity of a site selected from the list consisting of: a sphenopalatine ganglion (SPG) of the subject and a neural tract originating in or leading to the SPG; and

a connecting element, coupled to the stimulation device, and adapted to be passed through at least a portion of a greater palatine canal of the subject.

2. The apparatus according to claim 1, wherein the portion of the greater palatine canal has a length of at least about 2 cm, and wherein the connecting element is adapted to be passed through the portion.

3. The apparatus according to claim 1, wherein the connecting element comprises at least one mark, adapted to indicate a depth of insertion of the stimulation device in the greater palatine canal.

4. The apparatus according to claim 1, wherein the stimulation device is adapted to stimulate the site, and to configure the stimulation to be sufficient to induce a change in cerebral blood flow of the subject.

5. The apparatus according to claim 1, wherein the stimulation device is adapted to stimulate the site, and to configure the stimulation to be sufficient to modulate permeability of a blood-brain-barrier of the subject.

6. The apparatus according to claim 1, wherein the site includes the SPG of the subject, and wherein the stimulation device is adapted to be implanted in the vicinity of the SPG.

7. The apparatus according to claim 1, wherein the site includes a vidian nerve of the subject, and wherein the stimulation device is adapted to be implanted in the vicinity of the vidian nerve.

8. The apparatus according to claim 1, wherein the site includes an ethmoidal nerve of the subject, and wherein the stimulation device is adapted to be implanted in the vicinity of the ethmoidal nerve.

9. The apparatus according to claim 1, wherein the site includes a retro-orbital branch of the SPG of the subject, and wherein the stimulation device is adapted to be implanted in the vicinity of the retro-orbital branch.

10. The apparatus according to claim 1, comprising an introducer, adapted for mounting the stimulation device thereon, and to be passed through the at least a portion of the greater palatine canal.

11. The apparatus according any one of to claims 1-10, wherein the stimulation device comprises at least one electrode.

12. The apparatus according to claim 11, wherein the electrode is configured to wrap around a nerve of the subject in the vicinity of the site.

13. The apparatus according to any one of claims 1-10, comprising a stimulator, coupled to the connecting element, and adapted to be fixed to a hard palate of the subject.

14. The apparatus according to claim 13, wherein the stimulator is adapted to be coupled to the hard palate in a supraperiosteal region thereof.

15. The apparatus according to claim 13, wherein the stimulator is adapted to be coupled to an upper surface of the hard palate in a nasal cavity of the subject.

16. The apparatus according to claim 13, wherein the stimulator is adapted to be coupled to a lower surface of the hard palate.

17. Apparatus for insertion into a greater palatine canal of a subject, comprising a stylet, which comprises:

a proximal rod shaft, having a first diameter; and

a distal rod shaft, having a second diameter less than the first diameter, such that a region between the proximal rod shaft and the distal rod shaft is shaped so as to define a shoulder which is adapted to prevent insertion of the distal rod shaft into a sphenopalatine fossa of the subject beyond a depth of the greater palatine canal.

18. The apparatus according to claim 17, wherein the distal rod shaft comprises a cutting implement, located in a vicinity of a distal tip of the shaft.

19. The apparatus according to claim 17, wherein the proximal rod shaft has a length of between about 20 mm and about 150 mm.

20. The apparatus according to claim 17, wherein the first diameter is between about 1.5 mm and about 6 mm.

21. The apparatus according to claim 17, wherein the distal rod shaft has a length of between about 3 mm and about 20 mm.

22. The apparatus according to claim 17, wherein the second diameter is between about 1 mm and about 1.5 mm.

23. The apparatus according to claim 17, comprising a periosteal elevator for insertion into the greater palatine canal, the elevator comprising at least one mark adapted to indicate a depth of insertion of the periosteal elevator in the greater palatine canal.

24. Apparatus for insertion into a greater palatine canal of a subject, comprising a periosteal elevator, which comprises at least one mark adapted to indicate a depth of insertion of the periosteal elevator in the greater palatine canal.

25. A method for implanting a treatment stimulation device in a vicinity of a site of a subject, comprising:

passing the device through a greater palatine foramen of the subject; and

bringing the device into contact with the vicinity of the site, the site selected from the list consisting of: a sphenopalatine ganglion (SPG) of the subject and a neural tract originating in or leading to the SPG.

26. A method for implanting a treatment stimulation device in a vicinity of a site of a subject, comprising:

passing the device through at least a portion of a greater palatine canal of the subject; and

bringing the device into contact with the vicinity of the site, the site selected from the list consisting of: a sphenopalatine ganglion (SPG) of the subject and a neural tract originating in or leading to the SPG.

27. The method according to claim 25 or 26, wherein the site includes the SPG of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the vicinity of the SPG.

28. The method according to claim 25 or 26, wherein the site includes a vidian nerve of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the vicinity of the vidian nerve.

29. The method according to claim 25 or 26, wherein the site includes an ethmoidal nerve of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the vicinity of the ethmoidal nerve.

30. The method according to claim 25 or 26, wherein the site includes a retro-orbital branch of the SPG of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the retro-orbital branch.

31. The method according to claim 25 or 26, wherein bringing the device into contact comprises:

applying stimulation with the device;

observing one or more physiological responses of the subject to the stimulation; and

verifying desired placement of the device responsive to the observation.

32. The method according to claim 25 or 26, wherein bringing the device into contact comprises applying stimulation with the device, and configuring the stimulation to be sufficient to induce a change in cerebral blood flow of the subject.

33. The method according to claim 25 or 26, wherein bringing the device into contact comprises applying stimulation with the device, and configuring the stimulation to be sufficient to modulate permeability of a blood-brain-barrier of the subject.

34. The method according to claim 25 or 26, wherein the stimulation device includes at least one electrode, and wherein bringing the device into contact comprises bringing the electrode into contact with the vicinity of the site.

35. The method according to claim 34, wherein bringing the electrode into contact comprises wrapping the electrode around a nerve of the subject in the vicinity of the site.

36. The method according to claim 25 or 26, wherein the stimulation device includes a stimulator, the method comprising fixing the stimulator to a hard palate of the subject.

37. The method according to claim 36, wherein fixing the stimulator to the hard palate comprises coupling the stimulator to a supraperiosteal region of the hard palate.

38. The method according to claim 36, wherein fixing the stimulator to the hard palate comprises coupling the stimulator to an upper surface of the hard palate in a nasal cavity of the subject.

39. The method according to claim 36, wherein fixing the stimulator to the hard palate comprises coupling the stimulator to a lower surface of the hard palate.

40. The method according to claim 25, wherein passing the device through the greater palatine foramen comprises determining a depth of insertion of the device in a greater palatine canal of the subject by observing at least one mark on the device indicative of the depth of the insertion.

41. The method according to claim 25, wherein passing the device through the greater palatine foramen comprises widening a greater palatine canal of the subject using a series of periosteal elevators having successively greater diameters.

42. The method according to claim 25, wherein passing the device through the greater palatine foramen comprises widening a greater palatine canal of the subject using a series of tools having successively greater diameters.

43. The method according to claim 25, wherein passing the device through the greater palatine foramen comprises mounting the device on an introducer, and passing the introducer through the greater palatine foramen.

44. The method according to claim 26, wherein passing the device through the portion of the greater palatine canal comprises determining a depth of insertion of the device in the greater palatine canal by observing at least one mark on the device indicative of the depth of the insertion.

45. The method according to claim 26, wherein passing the device through the at least a portion of the greater palatine canal comprises passing the device through at least about 2 cm of the greater palatine canal.

46. The method according to claim 26, wherein passing the device through the at least a portion of the greater palatine canal comprises widening the portion using a series of periosteal elevators having successively greater diameters.

47. The method according to claim 26, wherein passing the device through the at least a portion of the greater palatine canal comprises widening the portion using a series of tools having successively greater diameters.

48. The method according to claim 26, wherein passing the device through the at least a portion of the greater palatine canal comprises mounting the device on an introducer, and passing the introducer through the portion.

49. A method for implanting a treatment device in a vicinity of a site of a subject, comprising:

passing the device through a trans-maxillary sinus of the subject; and

bringing the device into contact with the vicinity of the site, the site selected from the list consisting of: a sphenopalatine ganglion (SPG) of the subject and a neural tract originating in or leading to the SPG.

50. The method according to claim 49, wherein the site includes the SPG of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the vicinity of the SPG.

51. The method according to claim 49, wherein the site includes a vidian nerve of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the vicinity of the vidian nerve.

52. The method according to claim 49, wherein the site includes an ethmoidal nerve of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the vicinity of the ethmoidal nerve.

53. The method according to claim 49, wherein the site includes a retro-orbital branch of the SPG of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the retro-orbital branch.

54. The method according to claim 49, wherein bringing the device into contact comprises:

applying stimulation with the device;

observing one or more physiological responses of the subject to the stimulation; and

verifying desired placement of the device responsive to the observation.

55. A method for implanting a treatment device in a vicinity of a site of a subject, comprising:

passing the device through a sphenopalatine foramen canal of the subject; and

bringing the device into contact with the vicinity of the site, the site selected from the list consisting of: a sphenopalatine ganglion (SPG) of the subject and a neural tract originating in or leading to the SPG.

56. The method according to claim 55, wherein the site includes the SPG of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the vicinity of the SPG.

57. The method according to claim 55, wherein the site includes a vidian nerve of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the vicinity of the vidian nerve.

58. The method according to claim 55, wherein the site includes an ethmoidal nerve of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the vicinity of the ethmoidal nerve.

59. The method according to claim 55, wherein the site includes a retro-orbital branch of the SPG of the subject, and wherein bringing the device into contact with the vicinity of the site comprises bringing the device into contact with the retro-orbital branch.

60. The method according to claim 55, wherein bringing the device into contact comprises:

applying stimulation with the device;

observing one or more physiological responses of the subject to the stimulation; and

verifying desired placement of the device responsive to the observation.

61. A method for implanting a treatment device in a vicinity of an ethmoidal nerve of a subject, comprising:

passing the device through an ethmoidal foramen of the subject; and

bringing the device into contact with the vicinity of the ethmoidal nerve.

62. The method according to claim 61, wherein the ethmoidal nerve includes an anterior ethmoidal nerve of the subject, and wherein bringing the device into contact comprises bringing the device into contract with the vicinity of the anterior ethmoidal nerve.

63. The method according to claim 61, wherein the ethmoidal nerve includes a posterior ethmoidal nerve of the subject, and wherein bringing the device into contact

comprises bringing the device into contract with the vicinity of the posterior ethmoidal nerve.

64. The method according to claim 61, wherein bringing the device into contact comprises:

applying stimulation with the device;

observing one or more physiological responses of the subject to the stimulation; and

verifying desired placement of the device responsive to the observation.